



Joint Light Tactical Vehicle Power Requirements



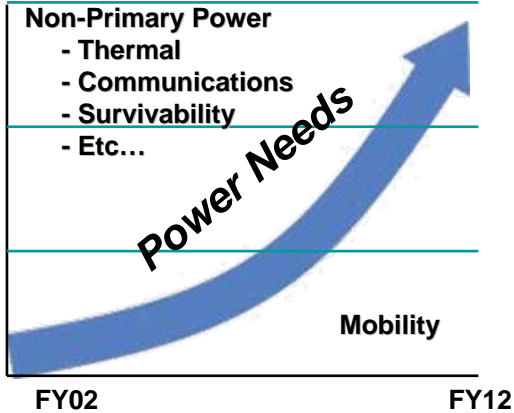
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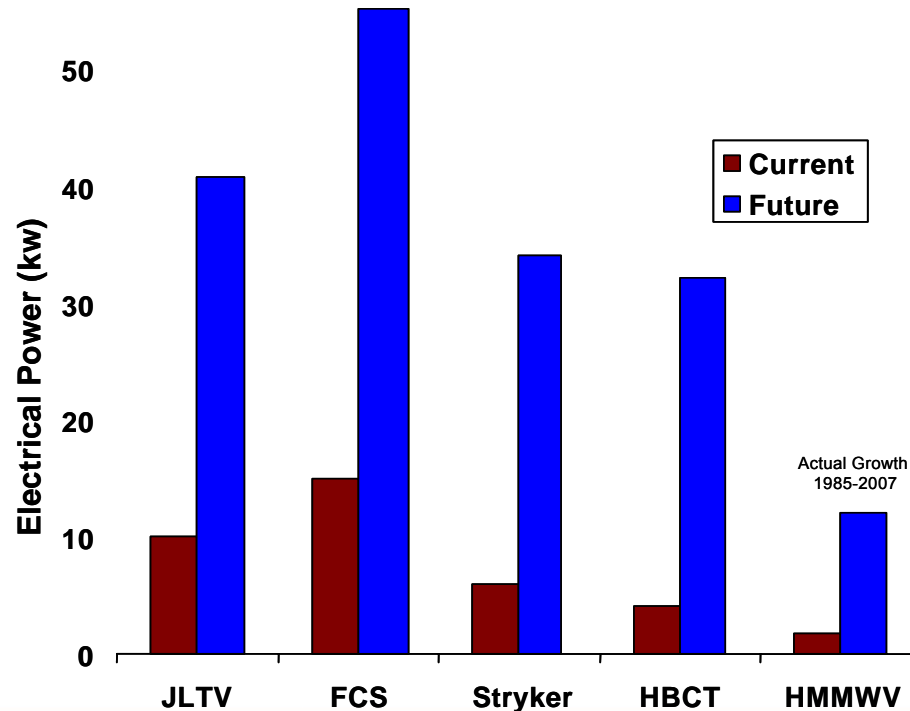
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Ground Vehicle Power and Energy



**Non-Primary Power
Estimated Electrical Power Growth**





JLTV Vehicle Categories – Force Application

Mission Role Variants

Combat Tactical Vehicle –

Provide support for maneuver forces (infantry and combat arms)

- Infantry Fire Team Carrier
- Heavy Guns Carrier
- Anti-tank Missile Carrier

Power Estimates

Mobility + On Board + Exportable ~ 335-400HP

On Board Requirement – 7kW(t) 10kW(o)*

Exportable Requirement – 10Kw(t) 30kW(o)*

Silent Watch – 2 hours (t) 6 hour (o)*

(includes 2 SINCGARS, Blue Force Tracker, Remote weapon System)

* Stated in JLTV RFI Dec. 06, Attachment 2a



On Board and Export Power must be provided while vehicle is mobile or stationary



JLTV Vehicle Categories – Focused Logistics

Mission Role Variants

Provide support for combat
support and combat
service support forces

Utility Vehicle Light

Utility Vehicle Heavy

Shelter Carrier

Ground Mobility Vehicle

Power Estimates

Mobility + On Board + Exportable ~335-400HP

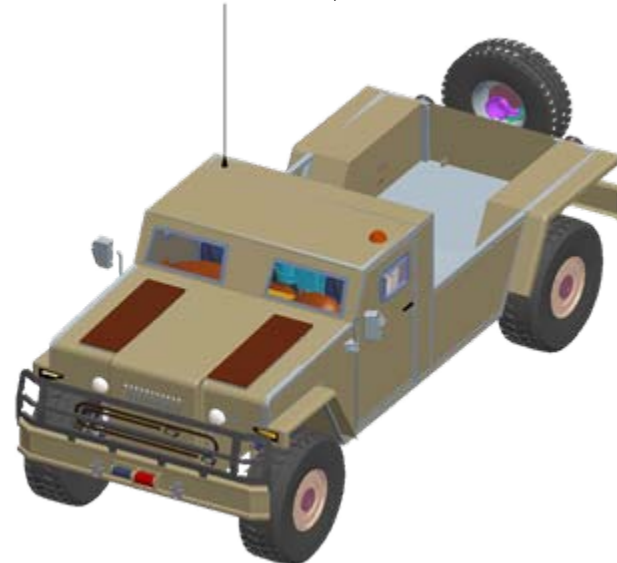
On Board Requirement – 7kW(t) 10kW(o)*

Exportable Requirement – 10Kw(t) 30kW(o)*

Silent Watch – 2 hours (t) 6 hour (o)*

(includes 2 SINCGARS, Blue Force Tracker, Remote weapon System)

* Stated in JLTV RFI Dec. 06, Attachment 2a



On Board and Export Power must be provided while vehicle is mobile or stationary



JLTV Vehicle Categories – Battlespace Awareness



Mission Role Variant

Long Range Surveillance

Provide support for conventional force long range surveillance, Special Operations Command, plus other Service reconnaissance and surveillance forces conducting intelligence, surveillance and reconnaissance missions.

General Purpose

C2

Power Estimates

Mobility + On Board + Exportable ~280-320HP

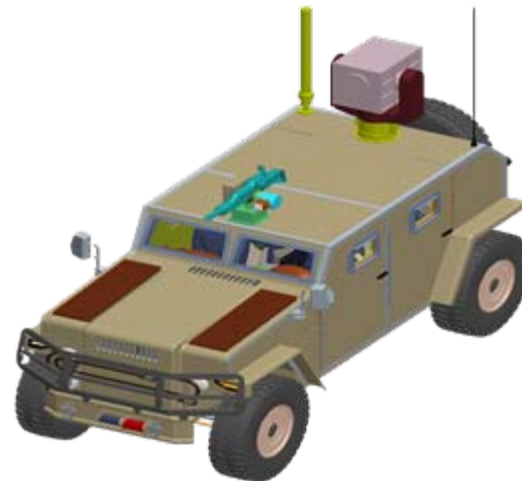
On Board Requirement – 10kW(t) 14kW(o)*

Exportable Requirement – 10Kw(t) 30kW(o)*

Silent Watch – 4 hours (t) 12 hour (o)*

(includes 2 SINCGARS, Blue Force Tracker, Remote weapon System and Long Range Acquisition Sensor)

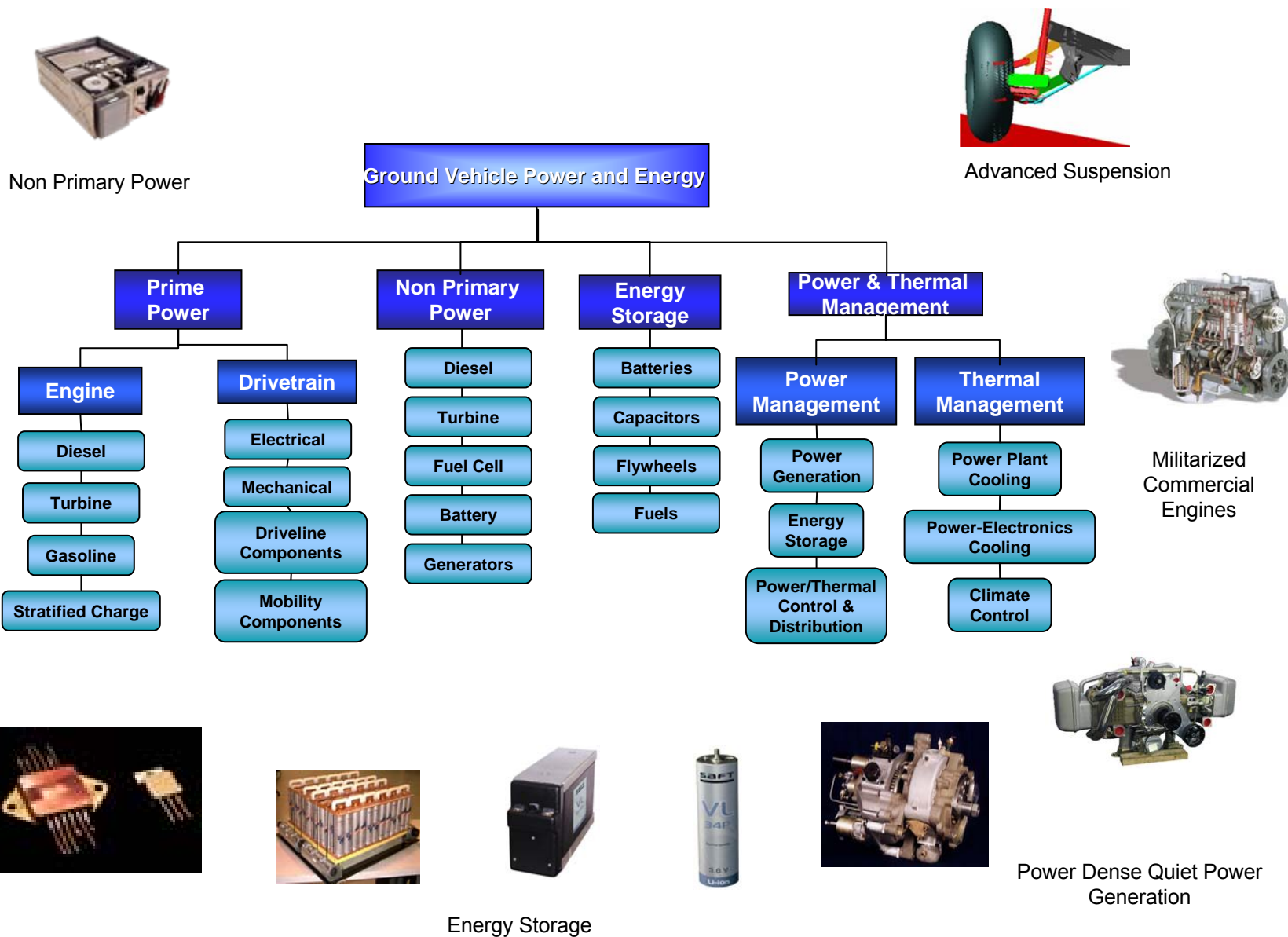
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On Board and Export Power must be provided while vehicle is mobile or stationary



Requirements - Functional Decomposition





Back-up



Armor Holdings (AH) – FTTS Demonstrator

Maneuver Sustainment Vehicle (MSV) & Companion Trailer (CT)



Survivability & Force Protection

- Monocoque cab
- Modular Armor Kit
- Front, rear and side cameras
- NBC system
- Collision avoidance
- 2 person cab

Network Centricity

- Integrated communications suite
- Integrated computer system

Sustainability

- 30 kW exportable AC power
- Enhanced On-board Diagnostics
- Lube for Life (bushings & bearings)

Transportability

- 96" w x 102" h x 406" l
- C-17 transportable
- 49,000 lbs. Curb Weight
- 75,000 lbs. Gross Vehicle Weight

Mobility

- Parallel Hybrid Electric Propulsion
- Air Suspension Height Control (ASHC) and Load Monitoring System (LMS)
- Central Tire Inflation System (CTIS) / run-flat
- Anti-Lock Braking System (ABS)

Payload

- 13 Tons - Residual Payload w / B Kit

Distribution

- Multi-functional LHS & MHE crane hook lift and a forklift
- 6,100 lbs at 23 feet MHE
- 13,200 lbs at 24' 3" LHS

Operational Range

- 300 miles

- C9 8.4L engine (335 kW @ 2200 rpm)
- 4 NIMH batteries 8.5 amp hrs, 336 Volts
- Integrated starter/generator (ISG) 120kW peak, 100 kW continuous
- 7 speed hydrokinetic automatic transmission



MSV Companion Trailer (CT)

Commonality with MSV

- Axles, suspension, wheels, tires, brakes, ABS, Central Tire Inflation System (CTIS), 24 Volt CAN/Bus System

Distribution

- Receives Flat Racks and ISO containers from Truck Load Handling System (LHS)

- Move loads and trailer without truck

Mobility

- 3 Axle with semi-autonomous operation
- Steering on Axle #1 and #3
- Turning radius (Autonomous): 20 ft-8 in
- Max speed 1.89 MPH
- Vertical Obstacle 24 in Step
- Gradient (Autonomous) – 30%
- Air Bag Independent Wishbone Suspension with ride height control
- 230 mm Jounce, 200mm Rebound
- Central Tire Inflation System (CTIS)

Deployability

- Self-Powered offload C-130 and operational watercraft Joint Requirement

Operational Range

- Range 65 miles
- Power Diesel Engine (73 HP)
- Hydrostatic Drive Train
- Tethered Coupled / Wireless Uncoupled Control



International Military Group – FTTTS Demonstrator

Utility Vehicle (UV) & Trailer



Survivability & Force Protection

- Monocoque cab
- Modular Armor Kit
- 2 person cab

Network Centricity

- Integrated communications suite
- Integrated computer system

Sustainability

- Limited on-board diagnostics
- 75kW integrated, exportable AC power

Transportability

- 92" w x 83" h x 221" l
- CH-47 and C-130 Transportable
- Demonstrator curbweight = 18,600 lbs
- Reducible weight = 16,400 lbs

Mobility

- Parallel Hybrid electric propulsion
- Torsion bar suspension, passive shocks
- Designed for adjustable ride height control
- Central Tire Inflation Systems (CTIS)
- Rear axle steer
- Anti-Lock Braking System (ABS)

Payload

- 3400 lb payload with integral armor
- On-board crane with 800 lb lift @ 8'

Operational Range

- Over 555 mile range



UV Companion Trailer

Commonality with UV

- Common tires, suspension, brakes with truck

Payload

- 5500 lb payload





Lockheed Martin – Owego – FTTS Demonstrator

Utility Vehicle (UV) & Trailer



Survivability & Force Protection

- Monocoque cab
- Modular Armor Kit
- Machine Gun Ringmount
- 2 crew + 1 jump seat

Network Centricity

- Integrated communications suite
- Integrated computer system

Sustainability

- Limited on-board diagnostics
- 8kW integrated exportable AC power

Transportability

- 95" w x 90" h x 229" l
- CH-47 & C-130 Transportable
- Demonstrator curbweight = 21,600 lb
- Reducible curbweight = 19,705 lb

Mobility

- Parallel Hybrid electric propulsion
- SLA suspension with Air Spring, passive shocks
- Adjustable Ride height control (4 position)
- Central Tire Inflation (CTIS)
- Anti-Lock Braking System (ABS)

Payload

- 3300 lb payload with A-kit armor
- On-board crane with 1000 lb lift @ 5'

Operational Range

- 528 mile range



UV Companion Trailer

Commonality with UV

- Common tires, suspension, brakes with truck

Payload

- 6100 lb payload